

**United States House of Representatives  
Select Committee on the Climate Crisis**

**Hearing on August 1, 2019  
“Colorado’s Roadmap for Clean Energy Action:  
Lessons from State and Local Leaders”**

**Questions for the Record**

**The Honorable Jared Polis  
Governor of Colorado**

**The Honorable Kathy Castor**

- 1. In your testimony, you noted that Colorado has adopted Low Emission Vehicle standards and is considering adopting Zero Emission Vehicle standards. You also noted that Coloradans could save \$43 billion from a transition to electric vehicles by 2050. From your perspective as Governor, why is the proposal to rollback the Federal standards and slow automaker investments in new technologies a mistake?**

We Coloradoans place a high value on our natural environment and the health of our communities. That is why as Governor, I have made protecting and improving air quality one of my top priorities. Achieving dramatic reductions of air pollution from the transportation sector will be critical to addressing this priority. Currently, transportation emissions are the largest contributor to unhealthy levels of ozone in the Denver metro area, and with the great strides that Colorado is making in transitioning to renewable forms of electric generation, transportation will soon be the largest source of greenhouse gas (GHG) emissions and will persist as the top GHG emitter for the foreseeable future.

To achieve the deep reductions in transportation emissions necessary to achieve our air quality and climate goals will require us to transition to lower emitting gasoline vehicles and ultimately zero emission vehicles. Accomplishing this transition won’t be easy. We currently have over five million registered vehicles in Colorado, and turning over this existing fleet to cleaner burning and zero emission vehicles will take time. But given the critical nature of the problem and the opportunity presented by a swift transition, we must pursue all reasonable strategies to accelerate this work.

Fortunately, there is a path forward. Thanks in large part to the new vehicle standards adopted by the Obama administration, automakers are well on their way to developing and implementing technologies that will achieve deep reductions in vehicle emissions. Every credible analysis that has been undertaken has shown that these standards will not only dramatically reduce emissions, they will also result in significant cost savings to consumers in the form of lower gasoline bills. Colorado’s analysis shows that for model years 2022-2031, the Obama era standards will save

Colorado consumers nearly 8 billion dollars, while eliminating over 31 million tons of greenhouse gas emissions to the atmosphere from Colorado vehicles. These standards, along with the revolutionary advances in electric vehicle technologies, and automakers commitments to producing and selling a rapidly expanding fleet of electric vehicles, means the future of a much cleaner vehicle fleet should look bright.

Unfortunately, the current administration in Washington not only refuses to lead us to this bright future, but is actively trying to undermine our progress. In seeking to roll-back technically feasible and cost-effective standards, the current administration is engaging in an unprecedented attack on our environment, our health and our pocketbooks. And it is doing so without any reasoned support. Analysis after analysis, along with the statements of the Environmental Protection Agency's own technical staff, have shown that the justification for the roll-back is based on unsupported and unrealistic factual assumptions, and analytical sleight-of-hand.

Further, in seeking to eliminate the rights of states to establish their own standards as expressly provided for under the Clean Air Act, the current administration is seeking to upend nearly a half century of precedent allowing states to go beyond the federal government in protecting their citizens from unhealthy air. Such an action demonstrates that the passionate pleas for protecting states' rights and preserving cooperative federalism that we so often hear from Washington are little more than empty slogans.

Finally, and almost unbelievably, this attack on our environment the health of our communities, our legal precedent, and reasoned decision-making, is being undertaken in the face of stiff opposition from the automakers themselves. This is an industry that relies on long lead times for developing its products, and as such regulatory certainty on applicable standards is absolutely essential. By seeking to roll-back these standards so late in the product development cycle, the current administration is creating regulatory chaos that severely undermines the ability of automakers to plan for and develop the next generation of vehicles.

We note that just this August the Colorado Air Quality Control Commission voted to adopt Zero Emission vehicle standards, pursuant to the authority granted by the Clean Air Act - and both the Alliance of Automobile Manufacturers and the Alliance of Global Automakers worked with the state on crafting the language proposed to the Commission, and supported adoption of the standard. The federal government should be seeking to foster and expand upon this type of cooperative effort between the states and the automobile industry to support advanced technology vehicles, reduce emissions and provide clear rules of the road allowing manufacturers to make long term investment decisions.

Ultimately, there is nothing positive about the current administration's attack on the current new vehicle standards. It's bad for the environment, bad for the health of our communities, bad for consumers, and bad for business.

**2. In your testimony, you mentioned that Colorado signed on to a Memorandum of Understanding with several other states in the Intermountain West on electric**

**vehicle charging stations. Many of these states do not yet have targets to reduce greenhouse gas emissions. What are the anticipated economic benefits from building out corridors for electric vehicle charging?**

There are enormous economic benefits that come from a widespread transition to electric vehicles (EVs). These benefits included significant consumer savings on fuel costs, consumer savings on vehicle maintenance, and downward pressure on electric rates leading to consumer savings for all electric ratepayers. In addition, there are benefits associated with the public health benefits of reduced criteria emissions, as well as the benefits that come from reduced emissions of greenhouse gases.

In order to achieve these benefits, widespread adoption of electric vehicles is required. There are four key things that are necessary to achieve this - adequate charging infrastructure; availability of models that meet consumer needs; marketing to ensure consumers are aware of electric options; and financial incentives such as federal tax credits to address the up-front cost barriers during the early years of the market. The Regional Electric Vehicle agreement among 8 western states (AZ, CO, ID, MT, NM, NV, UT, WY), known as the REV West MOU, commits the states to working together to address charging infrastructure along the interstate highways linking our states, thus addressing one of the key issues required in order to realize these benefits.

The State of Colorado has examined the net benefits associated with transportation electrification in some detail. Our analysis is based upon studies by the consulting firm MJ Bradley<sup>1</sup>, by the International Council for Clean Transportation<sup>2</sup>, and work done by the state Air Pollution Control Division in preparation for state adoption of a Zero Emission Vehicle standard<sup>3</sup>. The MJ Bradley Study examined the net economic benefits to vehicle owners (lifetime fuel savings minus cost differential for EV purchase), the monetized value of avoided carbon emissions, and the benefits to electricity ratepayers. This 2017 analysis found that under a moderate EV growth scenario, Colorado could experience a net present value of \$7.6 billion in cumulative net benefits by 2050. Under a high growth scenario, these could grow to more than \$43 billion.

One important issue to explain is why EVs provide a broad benefit to all utility ratepayers. The reason is that most EV charging takes place at night, during off-peak periods when the utilities have significant excess generation and transmission capacity. Adding off-peak load spreads fixed costs over a larger number of kilowatt-hours, which reduces the average cost per kilowatt-hour. The MJ Bradley reports concludes that each additional EV in Colorado generates a \$600 net benefit to utility customers.

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<sup>1</sup> Plug-in Electric Vehicle Cost-Benefit Analysis: Colorado, MJ Bradley & Associates, April 2017

<sup>2</sup> Electric Vehicle Costs and Consumer Benefits in Colorado in the 2020-2030 Time Frame, International Council on Clean Transportation, June 2018.

<sup>3</sup> Colorado Air Pollution Control Division, Final Economic Impact Analysis for Colorado Low Emission Automobile Regulation, pp. 20, 22. (Nov. 15, 2018)

In December 2018, a similar study was conducted in Arizona, which found \$31 billion NPV in net benefits by 2050 in a high EV adoption scenario.<sup>4</sup>

In addition to these quantified benefits, there are other important but harder to quantify benefits, including the creation of advanced vehicle technology jobs, the furtherance of EV tourism, and the extent to which having advanced technology and clean air can help to attract high quality employers and employees. I believe that Governors across the West, regardless of partisan affiliation, understand this broad range of benefits, and that is why we are all working together to enable widespread transportation electrification across the west.

**3. In your testimony, you mentioned that shifting to clean energy has helped created clean energy jobs in Colorado. Which Federal policies would help expand clean energy job opportunities across the United States?**

Bold climate action and a transition to a clean energy economy is not only a moral imperative, it's also a significant economic and job growth opportunity. As the U.S. Bureau of Labor Statistics reported earlier this year, solar installers and wind turbine service technicians are the two fastest growing occupations in the country.<sup>5</sup> A recent study conducted by Advanced Energy Economy, derived from data collected for the 2019 U.S. Energy and Employment Report, revealed that in Colorado clean energy jobs grew 4% last year, twice the rate of the state's overall jobs growth.<sup>6</sup>

While there is growing evidence that investing in the clean energy economy promotes significant job opportunities, federal and state employment statistics and other economic data could improve substantially and support enhanced policy development. In Colorado, we strive to ensure state policies are data driven and are continuing to improve data collection related to the clean energy economy. However, without federal investment in our labor market measures to keep pace with an evolving economy, we are left without sound data to fully illuminate the job impacts of policy in this area. Specifically, we would advocate for the Bureau of Labor Statistics to reinstitute tracking of "green jobs," including data on employment by industry and occupation for businesses that produce green goods and services; data on the occupations and wages of jobs related to green technologies and practices; and green career information publications.

Furthermore there is a need for increased investment in federally funded workforce programs. Over the past decade the states have seen significant cuts to the Workforce Investment Act and Workforce Innovation and Opportunity Act formula funds, Perkins Career and Technical Education and Adult Education funding. These cuts create challenges for states to fully harness the potential of the clean energy economy. These cuts have left businesses struggling to find skilled workers and left workers without pathways to better paying jobs. In Colorado, a recent survey revealed that 54% of employers find it very difficult to identify qualified candidates for

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<sup>4</sup> Plug-in Electric Vehicle Cost-Benefit Analysis: Arizona, MJ Bradley & Associates, December 2018.

<sup>5</sup> <https://www.bls.gov/careeroutlook/2017/article/occupational-projections-charts.htm>

<sup>6</sup> <https://www.aee.net/articles/colorado-advanced-energy-jobs-exceed-those-in-hospitals-9-growth-expected>

advanced energy jobs.<sup>7</sup> Our rapidly changing economy requires investing in education and workforce programs now and in the future to realize the full potential of our clean energy future.

**4. In your testimony, you mentioned the just transition policies that were recently enacted by the Colorado legislature. What recommendations do you have for Federal policy that could accomplish the same goals?**

This past spring, I signed into law House Bill 19-1314: *Just Transition from Coal-based Electrical Energy Economy*.<sup>8</sup> This bill establishes a Just Transition Office tasked with aligning and delivering programming and funding to communities and workers impacted by a changing energy economy, in addition to disproportionately impacted communities who have borne the costs of pollution. Over the next year, an advisory committee will develop a draft Just Transition Plan for submission to the Governor and the General Assembly by December 31, 2020. The advisory committee is comprised of a diverse set of perspectives, ranging from impacted workers and communities, the private sector, legislative partners, economic and workforce experts, and government representatives. While it is premature to articulate specific Federal policy recommendations at this time, we have initiated an inclusive and proactive process to support and inform a just transition in Colorado. The Federal Government will no doubt be an integral partner in this work and we look forward to maintaining an open line of communication over the coming months.

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<sup>7</sup><https://www.aee.net/articles/colorado-advanced-energy-jobs-exceed-those-in-hospitals-9-growth-expected>

<sup>8</sup> <https://leg.colorado.gov/bills/hb19-1314>